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DEPARTMENT OF HEALTH  
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December 14, 1988

Mr. Ed King  
Jumbo Mining Co.  
6305 Fern Spring Cove  
Austin, Texas 78730

DOGM  
MINERALS PROGRAM  
FILE COPY

11/027/007  
**YOUR COPY**

**RECEIVED**  
MAR 10 1989

DIVISION OF  
OIL, GAS & MINING

Re: Jumbo Mine (formerly Drum Mine)  
Project Statement

Dear Mr. King:

We have reviewed your proposal dated 21 October 1988 concerning future operations at the Drum mine which your company has recently purchased. Many of our concerns are related to protecting our ground water resources.

The three (3) heap leach pads defined in our 4 October 1983 construction permit may be leached (per our 23 September 1988 order) until 1 October 1990. Ore shall not be placed any higher than forty (40) feet as stated in our 21 July 1988 letter.

The thirteen (13) acre heap leach pad defined in our 16 March 1984 construction permit may be leached (per our 23 September 1988 order) until 1 October 1990. Ore shall not be placed any higher than forty (40) feet as stated in our 21 July 1988 letter.

The Bureau of Water Pollution Control (the Bureau) will not consider requests to extend the operating life of these facilities beyond 1 October 1990. This is because of the temporary nature of heap leach construction and because the Bureau is developing regulations for heap leach operations which require more protection for surface and ground water than these facilities provide.

Based on the information presented in your 21 October 1988 letter, it seems reasonable that authorized heap leach pad # 4 and unauthorized heap leach pad #5 as defined in our 23 September 1988 order are in fact the fourth permitted heap leach pad as described in our 16 March 1984 construction permit. This conclusion is based on the following:

1. The size of the heap leach pad described in the 16 March 1984 construction permit and the combined size of pads #4 and #5 are approximately the same i.e. 13 acres.
2. Heap leach pads #4 and #5 are in fact not two separate pads but are constructed as one.
3. As best can be established, the pads were constructed at the same time.

4. Jumbo's presentation that the size of heap leach pads #4 and #5 was larger than the hydraulic capacity of the process solution system could supply. Therefore for operational considerations the pad permitted in our 16 March 1984 construction permit is in fact pad #4 and #5 as referred to in our 23 September 1988 order.

Your letter of October 21, 1988 also requested permission to mine and load new ore on the approved heap leach pads. This will be allowed as a modification to our order to Western States Minerals of 23 September 1988.

The following shall be submitted for review and approval prior to removing any ore from the existing heap leach pads or commencing leaching operations:

1. Each pad shall be evaluated to establish the thickness of ore which shall remain to be a protective cover for the liner if you wish to treat, crush or restack the ore. The acceptable thickness shall be at least two feet but no less than twice the maximum ore particle size..
2. The concept of positive depth restraints on the bulldozer ripper tooth shall be explained.
3. The process by which spent ore will be recrushed, exposed to cyanide etc. without contamination to surface or ground water, shall be submitted for review.
4. Provisions which will prevent spillage of cyanide or cyanide laden ore being transported shall be submitted for review.
5. All unauthorized pads shall be dealt with as described in our 23 September 1988 order.
6. Continued leaching of authorized pads #1, #2, #3, #4 and #5 (based on the previous presentation) will be allowed only until 1 October 1990 as stated in our 23 September 1988 order.
7. The quality of the PVC liner shall be evaluated in detail with documentation to determine its present condition and on an annual basis thereafter throughout the remainder of the project. This evaluation shall be reported in writing to the Bureau of Water Pollution Control by 1 May of each year.
8. The neutralization criteria for the heap leach pads and process ponds shall be reviewed and approved by the Bureau.
9. If the ore already on the pads will be leached with chemicals other than cyanide, a new plan must be submitted for review.
10. Existing ore and new ore may be loaded onto any authorized pad to a maximum height of 40-feet. This limitation will not require Jumbo Mining to reduce the height of ore stacked in excess of 40-feet by Western States Minerals to within this limit.

Mr. Ed King  
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Please call Mack Croft or Charlie Dietz if there are any questions.

Sincerely,

Utah Water Pollution Control Committee

Don A. Ostler, P.E.  
Executive Secretary

cc: Roger Foisy, Central Utah District Health Department, Richfield  
Bruce Hall, Central Utah District Health Department, Nephi

CGD/ag  
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